

**UNITED STATES DEPARTMENT OF COMMERCE****United States Patent and Trademark Office**Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231*AS*

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/405,299 09/23/99 ALBERTE

R PHA-005.01

025181
FOLEY, HOAG & ELIOT, LLP
PATENT GROUP
ONE POST OFFICE SQUARE
BOSTON MA 02109

IM31/0731

EXAMINER

YAMNITZKY, M.
ART UNIT PAPER NUMBER

13

1774
DATE MAILED:

07/31/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No. 09/405,299	Applicant(s) Randall S. ALBERTE et al.
Examiner M. Yamnitzky	Art Unit 1774



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three (3) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on May 14, 2001

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-70 is/are pending in the application.

4a) Of the above, claim(s) 67-69 is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-66 and 70 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are objected to by the Examiner.

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) All b) Some* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) Notice of References Cited (PTO-892)

18) Interview Summary (PTO-413) Paper No(s). _____

16) Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) Notice of Informal Patent Application (PTO-152)

17) Information Disclosure Statement(s) (PTO-1449) Paper No(s). 5

20) Other: _____

Art Unit: 1774

1. Applicants' election without traverse of the species of compound of general structure 1 wherein X represents -OH, Y represents O and Z represents optionally substituted aryl in Paper No. 11 (received 05/14/01) is acknowledged. Applicants' election without traverse of the species of coating form wherein the coating is a liquid is acknowledged.

Claims 1-66 and 70 read on the elected species.

2. Claims 67-69 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b) as being drawn to non-elected species. Upon allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141.

3. Claims 28 and 60 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification fails to describe how to make a "permanent" coating comprising an effective amount of anti-fouling compound represented by general structure 1 wherein the compound or a biologically active fragment of the compound can be released from the coating by liquid or vapor. As the compound or a fragment thereof is released by a liquid or a vapor, the content of the compound of general structure 1 in the coating will decrease until such time as

Art Unit: 1774

there is no more compound of general structure 1 in the coating, and the coating comprising the compound of general structure 1 no longer exists. It is unknown how such a coating could ever be made to be a “permanent” coating.

4. Claims 5, 12, 13, 17, 21, 22, 38, 45, 46, 50, 54 and 55 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Although compounds within the scope of these claims are named in the specification, there are no examples demonstrating that any compounds within the scope of these claims are anti-fouling compounds. The only compounds for which data of anti-fouling capabilities is presented is zosteric acid, octyl sulfate and methyl sulfate. None of these three compounds meets the limitations of claims 5, 12, 13, 17, 21, 22, 38, 45, 50 and 54.

5. Claims 1-27, 29-59, 61-66 and 70 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a coating comprising an effective amount of bioavailable anti-fouling compound selected from the group consisting of methyl sulfate, octyl sulfate and zosteric acid, does not reasonably provide enablement for coating comprising an effective amount of bioavailable anti-fouling compounds selected from the myriad of other compounds within the scope of general structure 1. The specification does not enable any person

Art Unit: 1774

skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

General structure 1 as set forth in present independent claims 1 and 34 encompasses hundreds, if not thousands of different compounds. The only coatings for which data of anti-fouling capabilities is presented are coatings comprising one of zosteric acid, octyl sulfate or methyl sulfate. The data presented with respect to coatings comprising one of these compounds provide insufficient guidance to one of ordinary skill in the art to determine other coating compositions in which a compound represented by general structure 1 is present in an effective amount to reduce the number of organisms attached to a surface of a plant or plant component relative to the number attached to an untreated surface. It is the examiner's position that it would require undue experimentation, involving testing of numerous other compounds within the scope of general structure 1, involving testing of these numerous other compounds in combination with a myriad of other possible coating formulation components, involving testing of numerous coating compositions under a myriad of conditions against a myriad of antifouling compounds, to determine what compounds and what coating compositions would meet the limitations of the present claims.

6. Claims 1-33, 58-64 and 70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1774

The metes and bounds of claims 1-33 are not clear. The preamble recites “[a] plant cell surface”. It is not clear if these claims are drawn to a surface of a plant cell, or to a plant cell with something on the surface, or to a plant having something on the surface of a cell of the plant, or to something that can be put on the surface of a plant cell. Dependent claim 25 recites “wherein the surface is a coating”. A coating, *per se*, is not a plant cell surface. Based on claim 25, it appears that claims 1-33 can be interpreted as if drawn to a coating (in which case, claim 34 and some of the claims dependent from claim 34 are substantial duplicates of claims 1-33).

Claims 26, 27, 58 and 59: The scope of a “semi-permanent” coating is not clear. The difference between a “temporary” coating and a “semi-permanent” coating is not clear.

Claims 28 and 60: It is not clear how a coating comprising a compound of general structure 1, wherein the compound or a fragment thereof can be released by a liquid or a vapor, can be permanent. If the compound or a fragment thereof is released by a liquid or a vapor, over time, the coating will cease to comprise the compound of general structure 1. When no more compound of general structure 1 is present, a coating comprising a compound of general structure 1 no longer exists.

Claims 29-32 are also rendered indefinite by the recitation of “a defined period of time” with no limitation on the defined period of time.

Claims 31 and 32 are further indefinite because no point of reference is set forth for determining the reduction in the number of pathogens.

Art Unit: 1774

Claims 61-64 are rendered indefinite by the recitation of “a defined period of time” with no limitation on the defined period of time.

Claims 63 and 64 are further indefinite because no point of reference is set forth for determining the reduction in the number of pathogens.

Claim 70: The term “hard” is relative. The present specification provides insufficient guidance to determine the scope of a “hard” coating.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-4, 7-11, 16, 19, 20, 25-27, 29-37, 40-44, 49, 52, 53, 58, 59, 61-66 and 70 are rejected under 35 U.S.C. 102(b) as being anticipated by Zimmerman et al. (5,384,176).

In view of present claim 25’s recitation “the surface is a coating”, claim 1 and dependents are considered to read on a coating comprising a compound represented by general structure 1.

Zimmerman et al. disclose coatings comprising various phenolic acid sulfate esters. Each of the compounds disclosed by Zimmerman et al. meets the limitations of a compound represented by general structure 1 wherein X represents -OH, Y represents O, and Z represents a substituted

Art Unit: 1774

aryl. See the whole patent. In particular, see Fig. 1A, 1B, 1C, column 2, line 47 - c. 3, l. 26 and c. 4, l. 59 - c. 5, l. 10.

Claims 7 and 40 are included in this rejection because while these claims further limit R, these claims are not limited to a compound of general structure 1 comprising R. R is present only in the case where Y represents NR, and these claims do not require Y to represent NR.

Claims 29-32 and 61-64 are included in this rejection given that these claims do not limit the “predefined” period of time, do not limit the specific plant pathogen(s) to be reduced, and because the prior art compounds are within the scope of the compounds represented by general structure 1. It is reasonable to expect that the coatings containing phenolic acid sulfate esters that are disclosed in the prior art and are within the scope of the compound required by the present claims are capable of reducing at least some plant pathogens by a factor of 4, 8, 10 and 15 relative to a control over some unlimited period of time.

Zimmerman et al. utilize a coating composition that is a solution of the phenolic acid sulfate ester in methanol. It is the examiner’s position that upon application of the coating composition to a surface, with subsequent evaporation of the methanol, the solution solidifies into a hard coating on the surface as required by present claim 70.

9. Claims 1-4, 6-11, 14-16, 18-20, 23-27, 29-37, 39-44, 47-49, 51-53, 56-59, 61-66 and 70 are rejected under 35 U.S.C. 102(a) or 102(b) as being anticipated by applicants’ admissions in the present specification.

Art Unit: 1774

Octyl sulfate and methyl sulfate are known compounds. As admitted in the specification, octyl sulfate has extensive industrial applications and is manufactured by several large chemical companies (p. 20, l. 25-26). A solution of octyl sulfate in water was available from Stepan Chemical Co. prior to the filing date of the present application as admitted by applicant (p. 21, l. 2-3). If the solution of octyl sulfate in water was available from Stepan Chemical Co. more than one year prior to the filing date of the present application, the present claims reading on a liquid coating comprising octyl sulfate are rejected under 35 U.S.C. 102(b). If the solution of octyl sulfate in water was available from Stepan Chemical Co. less than one year prior to the filing date of the present application, the present claims reading on a liquid coating comprising octyl sulfate are rejected under 35 U.S.C. 102(a).

Further, any solution of octyl sulfate or methyl sulfate that was commercially available prior to the filing date of the present invention, and any disclosure in a printed publication of such a solution prior to the filing date of the present invention, anticipates a liquid coating comprising the sulfate under 35 U.S.C. 102(b) or 35 U.S.C. 102(a), depending upon whether the availability and/or printed disclosure occurred more than or less than one year prior to the filing date of the present application.

10. Miscellaneous:

In line 1 of claims 14 and 18, "planr" should read --plant--.

Each of claims 26 and 65 is lacking a period at the end of the claim.

Art Unit: 1774

11. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

U.S. Patent No. 5,607,741 is related to the patent to Zimmerman et al. that is applied above.

12. The examiner notes that the Information Disclosure Statement received 11/09/00 (Paper No. 5) is identified as a supplemental disclosure. Paper No. 5 is the only IDS in the application file. If applicants filed one or more IDSs in addition to Paper No. 5, applicants are respectfully requested to provide a copy of each additional IDS along with a copy of the postcard receipt showing the USPTO receipt date.

13. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (703) 308-4413. The examiner can generally be reached at this number from 6:45 a.m. to 3:15 p.m. Monday-Friday.

The current fax numbers for Art Unit 1774 are (703) 305-3599 for official after final faxes and (703) 305-5408 for all other official faxes. (Unofficial faxes for Art Unit 1774 can be sent to (703) 305-5436.)

MRY
07/30/01

Marie R. Yamnitzky

MARIE YAMNITZKY
PRIMARY EXAMINER

1774